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MicroIllusion's Photon Paint 2.0 has all the features needed to be a world class graphics program. With improved graphic tools, and added animation features, it further advances the state of the art in Amiga paint packages. See for yourself, in George Bailey's thorough review.

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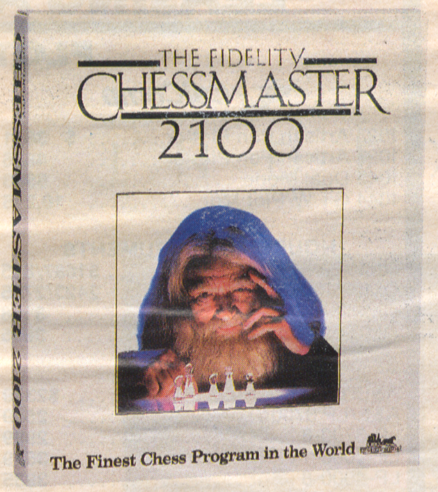
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ULTRASCRIPT MORE THAN A FOOTNOTE IN POSTSCRIPT'S HISTORY

by D.F. Scott

If you haven't been lucky enough to witness Atari Corp.'s latest—and perhaps best—television advertisement, here is what you've missed.

The camera shows us an Apple LaserWriter, churning out a decent-looking page just above the superimposed message "$4995." Next, IBM's laser printer is shown, supposedly a bit faster, resembling more a machine than a piece of furniture—although the "$4995" super remains on the screen.

As the music becomes more upbeat, Atari's SLM804 laser printer is shown cranking out quite a few pages, the colorless grey cube still partly covered by the same "$4995" figure. "But then," says the narrator—who just happens to be the lead vocalist for the Moody Blues—"Atari throws in a few extras." As he begins to read the list of "extras," they appear to the right of the printer: a four-megabyte computer (the Mega 4), a 30 MB hard disk drive, monochrome monitor, floppy disk drive, and desktop publishing software (Timeworks' DTP.) The $4995 price was, by that time, etching itself permanently onto the insides of American picture tubes.

So, asks the competent American laser printer buyer, what's the catch? There's bound to be a reasonable explanation why, as the narrator said, one pays the same for Atari's entire Desktop Publishing system as he would for one of "their" laser printers alone. Was there something in the small print at the bottom of the screen that we missed? Did the voice that so smoothly murmured the lyrics to "Nights in White Satin" just as smoothly camouflage the phrase, "Something not included?"

As we rewind the tape in our minds, indeed we come across "that" word again: "compatible." It is used in the phrase, "PostScript-compatible laser printer" with respect to the Atari model. The other two printers were just "PostScript printers." It is the existence of this "compatibility" which accounts for the $2500-$4000 price range difference between comparable IBM and Apple systems, and Atari's "DTP4" package. Just what is the buyer sacrificing should he decide to go with Atari?

Why PostScript Gets A Computer To Itself

The Macintosh computer is viewed by millions of buyers as a publishing machine. Despite the direction Apple Corp.'s engineers are taking their baby —toward the engineering workstation realm—the Mac's advertising still harps almost exclusively about its high-quality printed page output. The key to this quality is called PostScript, which is a page description language that can loosely be described also as a programming language. Using an English-like sentence structure format (which we'll discuss in depth later) the PostScript language can describe in brief but precise detail any printed page —perhaps even the one you're reading now- so that the printing device can assemble a page image without having to receive that image dot-by-dot, line-by-line, like a slow-scan television tube.

PostScript is a telecommunications program. It doesn't seem like one on the surface, since you don't use PostScript to dial up your local BBS; but in order for a computer to "speak" PostScript to the printer, a serial communications link must be established. .A PostScript laser printer is, for all intents and purposes, a computer. It receives PostScript information from a server computer which, from the point of view of the printer, is an external peripheral input device. An Apple LaserWriter has one megabyte of RAM and an interpreter program all to itself; after it receives the information, it frees the Macintosh to go back to its business.

So the owner of an all-Apple or all-IBM-brand PostScript DTP system is the owner of two computers, not one.

Before the advent of the Mac SE, the standard Macintosh had half the RAM of its own laser printer. Atari, by contrast, sells what can be described as a "dumb printer." It has no computer or huge bank of RAM all to itself, and is designed to receive and print just the page's raster image—line-by-line, dot-by-dot. Whereas the sever computer speaks to the true PostScript printer with a degree of intelligence, the Mega speaks to the SLM804 in a form somewhat akin to Morse code, or smoke signals.

This fact has been the major arguing point in favor of the larger manufacturer's DTP systems; but Atari is now using precisely that fact to tip the scales to its benefit. Utilizing the Arlo Guthrie philosophy of "one big pile is better than two little ones," Atari has been shown a method whereby the PostScript executive interpreter and printer driver may reside within the same computer, giving the SLM804 PostScript-quality output without giving it PostScript directly.

Atari is getting behind a product called UltraScript, developed independently by Imagen. UltraScript originally was intended for use with Imagen's own brand of laser printers; but since the company's acquisition by QMS Corp.—which manufactures the "Big Kiss" laser printer, among others—

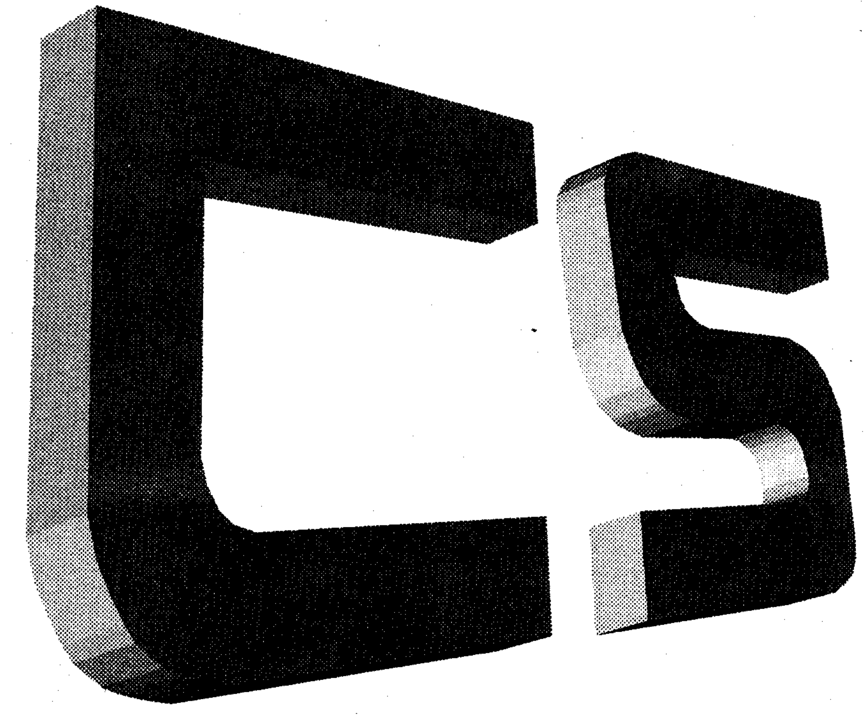


Figure 1

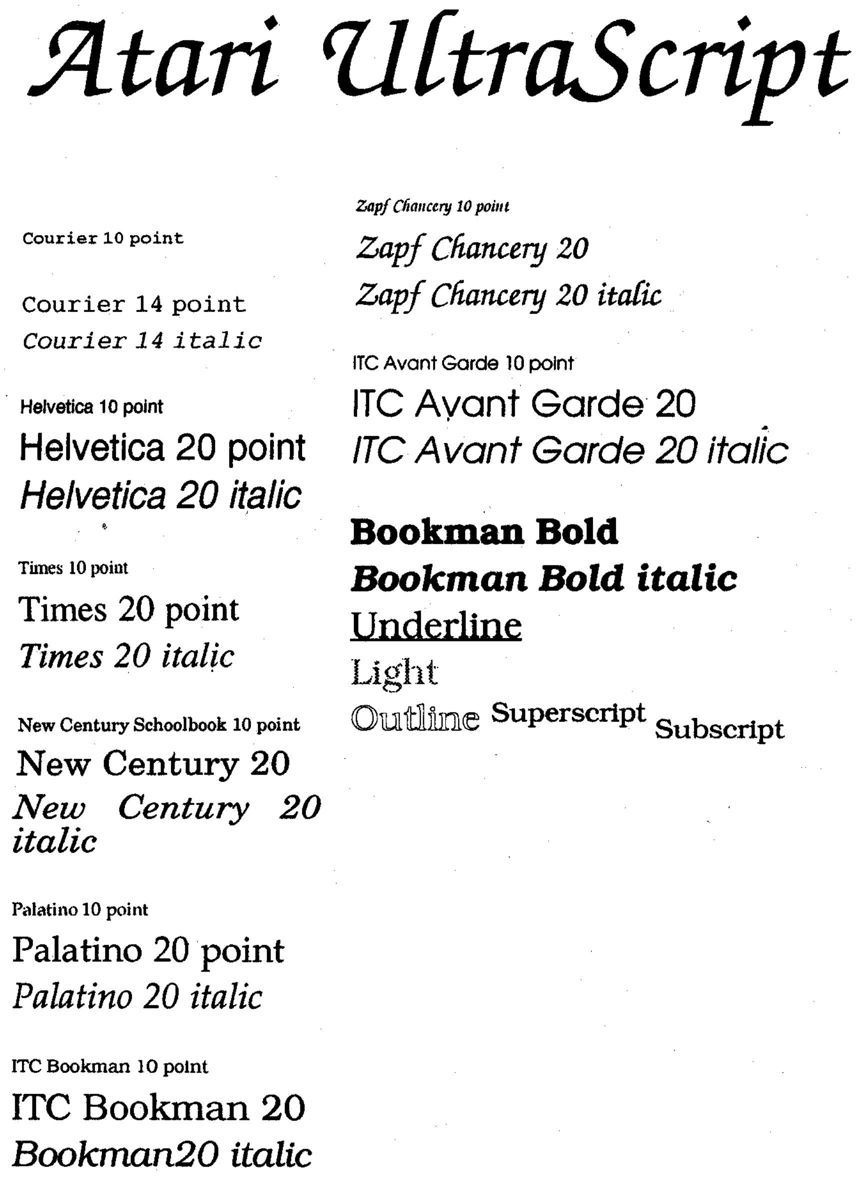
A premium example of the depth of the page description capabilities of PostScript, and the extent to which its execution is matched by UltraScript, appears here as the little ad for ourselves in Figure 1. This example was produced on a Mega 4 DTP system and SLM804 laser printer, with exactly the specifications mentioned in the Atari television ad. I did not write the PostScript program that describes this page (John Warnock of Adobe Systems, the co-creator of PostScript, did). I first plotted the "CS" from our magazine logo onto graph paper. I then used Eidersoft's Tempus text editor to modify the existing program, which had billed Adobe Systems, input my own graphic coordinates from the graph, and replace the text on the bottom of the page. This is not at all the most common way to typeset a page, but it does produce flashier output and can be guaranteed to impress certain editors.

The area covered by each shaded region is not described directly by variables but indirectly, through the use of three-dimensional geometric translations. Such operations are performed mathematically, not trigonometrically—PostScript knows no sines nor cosines intrinsically—though this is still a rare example of a dedicated geometric application for a simple page description language. The shaded areas are plotted as mathematical functions, 3D transformations and extrapolations, of the coordinates provided the interpreter within the data block of the PostScript program. Each plane that forms a side of the letter is, if you look closely, a rectangle, delimited by four points.

UltraScript retains at all times a single pair of 2D coordinates that acts as an "eye" in Euclidean, or configuration, space. This eye is scooted about the page so that it "translates"—to use the term in its mechanical sense—the four points of each rectangle. This translation is memorized by the UltraScript interpreter as a "path." The path is circumscribed, then "closed" to create a filling area, like ink bleeding toward the center of watermarked paper. Once that area is determined, then it is filled in configuration space. One of the standard features of PostScript syntax is that all the necessary data or operands are mentioned in the program—laid out on the table—first, before a functional keyword is executed.

This has been a side of the business of modern-day digital typesetting which many never get a chance to see, even if they have been using PostScript (indirectly) for years. The general-purpose UltraScript user, likewise, probably won't be writing script by hand, but will let some DTP program do the scripting for her.

◆ ULTRASCRIPT MORE THAN A FOOTNOTE IN POSTSCRIPT'S HISTORY



Atari UltraScript

Courier 10 point

Courier 14 point

Courier 14 italic

Helvetica 10 point

Helvetica 20 point

Helvetica 20 italic

Times 10 point

Times 20 point

Times 20 italic

New Century Schoolbook 10 point

New Century 20

New Century 20 italic

Palatino 10 point

Palatino 20 point

Palatino 20 italic

ITC Bookman 10 point

ITC Bookman 20

Bookman20 italic

Zapf Chancery 10 point

Zapf Chancery 20

Zapf Chancery 20 italic

ITC Avant Garde 10 point

ITC Avant Garde 20

ITC Avant Garde 20 italic

Bookman Bold

Bookman Bold italic

Underline

Light

Outline Superscript Subscript

Figure 2

UltraScript was redeveloped to be distributed and sold as a machine-independent product. Eastman Kodak and Mannesman Tally have both signed on as vendors of UltraScript editions for their printing hardware, and now Atari has joined the list.

UltraScript is not a telecommunications program. It is a PostScript interpreter, printer driver, and executive, which is the portion that actually executes the PostScript program produced by the DTP application. Practically speaking, UltraScript is PostScript in every sense. There are no differences, nor, for that matter, any enhancements. PostScript is not a language like BASIC, that can undergo innumerable variations and still remain true to its name. PostScript uses a simplistic, rigid, structure—one piece missing and the whole system would collapse. Therefore, Imagen made no changes to its syntax when developing UltraScript. If it did, the hardware and software that drove it would have to be UltraScript-exclusive.

Much Ado About A Printer Driver

After all this discussion, we have yet to settle the matter of just what category of code UltraScript falls under. If it's a program, then can one draw with it? If it's a programming language, then can the completed programs let one draw? Is this review beginning to sound like "What's My Line?"

Actually, the UltraScript package is a multitude of modules and data files of differing purposes. The formal definition of UltraScript is a "printing system." When a printer manufacturer seeks a vendor for software to drive its hardware, that is what the manufacturer asks for.

The heart of the printing system is the executive. Run by itself, it acts as a Command Line Interpreter (CLI), processing PostScript instructions in the way GFA Basic's command line directly processes BASIC instructions just after the return key is pressed. The difference with UltraScript syntax is that some drawing functions may take several steps to describe and execute as opposed to BASIC's mandatory single instruction line within a CLI.

The executive can be made to run a pre-existing PostScript program—and by this, we're referring to a page description file saved to this is through the aid of the UltraScript shell, which has been crafted to resemble the old GEM Desktop print queue program for MSDOS. The upper window is a three-column list that can hold a massive maximum number of files for the print queue. New filenames are added to the queue through the standard GEM item selector; in this DOS-and-TOS world, filenames generally end in *.PS. After a batch of individual files is selected in sequence and displayed in the tabular columns, the number of copies to print is entered and the shell directs the executive to interpret and execute each program in the queue in sequence. Realize that a *.PS program is not limited to describing just one page—it can represent an entire book or, even bigger still, an issue of *Computer Shopper*.

In order to print a page described by

ATARI ST NEWS AND COMMENT

by John Nagy

SHOWS continue to dominate the news of Atari. Since last time, the Spring Consumer Electronics Show (CES) has added to the list of events boasting new Atari announcements, and the Houston-Fort Worth area is gearing up to be number 3 in the World of Atari Show series.

Another new machine was shown by Atari at the Consumer Electronics Show in Chicago in June. This one is a portable game unit. The unit should appear this fall. It's hand-held size, and has a 3 1/2" LCD screen capable of 1,400 colors. It also boasts interconnectivity that allows play against other battery-powered units. Full details of this machine are in the 8-bit Atari News, elsewhere in this issue of *Computer Shopper* (along with other hot bits of news! Look for it!).

Other CES announcements include Spectrum Holobyte's new missions disk for Falcon (a remarkable jet simulator), and more ports of existing and future games from the IBM and Amiga. Overall, the Atari attention at this year's electric playground was mostly in the very large Atari area itself and not on the rest of the show floor. Although most third party developers of the entertainment software indicated that Atari ST support was continuing, they seemed to feel it was more to their advantage to demonstrate their multi-line titles on Amigas and IBMs.

The PC-4 286 clone was again shown, and this time formally introduced as a part of the US Atari lineup. At press time, it was still said not to have cleared FCC testing, but it was expected at any time. The "PC" nameplate will not appear in the USA, however, here they will be dubbed the "ABC-4", etc. for Atari Business Computer.

Atari also is rumored to be announcing a pair of additional new machines on August 25. One is expected to be another game system, probably a high-end unit (also rumored NOT to be ST-compatible), and the other is to be a new serious computer. This might be, finally, the 68030 "TT" computer that has tantalized the press for over a year. I'll do my best to get you the info as quickly as possible.

The amazing little Portfolio breast pocket computer that Atari announced at Comdex will be delayed somewhat due to several case tooling changes. The front plate seemed too likely to become dislodged in rough handling and had to be redesigned. Also, the black plastic case proved to be problematic in this production, and it was decided to make them grey instead. At least one soon-to-be distributor for the Portfolio is urging Atari to consider offering it in a variety of case colors. This portable will be treated quite differently from the rest of the Atari computer line, as it will be offered by mail order and specialty stores, glossy electronic toy catalogs, etc. At $399 suggested (expected to be as low as $300 at rock bottom), the Portfolio might be the hot executive toy of the Christmas season. Availability is still expected by September.

The Stacy laptop is also nearing production and should make shelves about the same time as the Portfolio. The battery-operated ST should also make a splash at its $1,500 tag. Rumors that the Stacy is being prepped for a Japanese version, complete with unique keyboard and operating system, have been denied by Atari offi-

continued on page 437

a PostScript program, we must assume that the *.PS file was previously produced. The *.PS file is not a natural product of a Mega DTP application. The production of that file is the duty of the UltraScript printer driver.

GDOS uses a block of machine language code called a "system device driver," a separate program that translates the image from a DTP or graphics application, and sends it to the output device with instructions telling that device what to do with it. This device most often is a printer.

When you "install" a graphics application for your computer, what you are doing is configuring individual files to operate within your hardware set up.

A printer driver for a Panasonic KX-P1191 dot matrix printer and one for an SLM804 laser printer are vastly different programs; but in order to work with a GDOS graphic application, the driver is generally renamed PRINTER.SYS by the installation program. This way, the main graphics application need not know what printer you have as long as its driver is called PRINTER.SYS. Furthermore, if someone invents a new type of printer since the advent of the application, all you need to do is write a new PRINTER.SYS for that printer.

Many current ST graphic applications are supplied with GDOS PostScript printer drivers—among them, Timeworks' DTP, TouchUp and, curiously enough, the LDW Power spreadsheet program. (MichTron's new Fleet Street publisher 2.0 is peculiar in that it uses GDOS optionally; we've yet to test it with UltraScript.) After one of these GDOS applications has been installed for use with a PostScript printer like Apple's LaserWriter Plus or Hewlett-Packard's LaserJet II, the application's PRINTER.SYS driver is ready to receive a raster-based graphic image. Then, it re-interprets that image as a linguistic PostScript page description. This verbal near-analogy for the page appearance is sent verbatim to the PostScript printer, which is then told to "have at it"—to see if the printer can make a page out of it—while the server computer goes back to running the application.

Here is where Imagen's UltraScript driver barges in on behalf of the SLM804. It takes the raster-graphic information fed it by the graphics application, and converts it into all that PostScript text which is then sent to the disk drive, as a *.PS file awaiting access by the UltraScript shell.

The standard *.SYS file, you see, is constructed as a normal interrupt-driven machine-language program, running in the background like a memory-resident ACCessory. No governing agent ensures that a printer driver necessarily communicates with the printer. The driver should not send any information to the screen, since that may interfere with the GEM "virtual workstation" set up by the application, resulting in a thorough perforation of user memory; other than that, the driver is free to do most anything else. The only job the driver is obligated to do is convince the application that something is being printed when, actually, it's not.

Why all this trouble fooling the DTP application into thinking something is being printed, just so the user will take the extra step of quitting the application to run the UltraScript print queue? Why doesn't the UltraScript driver send its data directly to the printer following the

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◆ ULTRASCRIPT MORE THAN A FOOTNOTE IN POSTSCRIPT'S HISTORY

print command, like a Macintosh?

The PostScript translation process takes an image from its appearance on the screen (or in some other bank of memory), examines and analyzes that image, and draws a semi-verbal conclusion as to what that image contains.

Without referring back to the original image, the second part of the translation process takes that description of the image and extracts a page with a higher resolution than the original.

Assume our original image, drawn with our DTP application, consists only of a straight diagonal line, from one point to any other point regardless of direction. To us the line is diagonal, but when the computer scans this image, it always does so from left to right horizontally, in scan lines from top to bottom. These scan lines are placed adjacent to each other in memory, the rightmost tail end of one scan line meeting the frontmost starting end of the next. Our diagonal line has thus been cut to ribbons and laid end-to-end. This is how PostScript and UltraScript see our diagonal line when they receive the transmission from the DTP application. It is up to the image interpreter to make sense of this transmission, to determine where that line would begin and end with respect to the page being conceived.

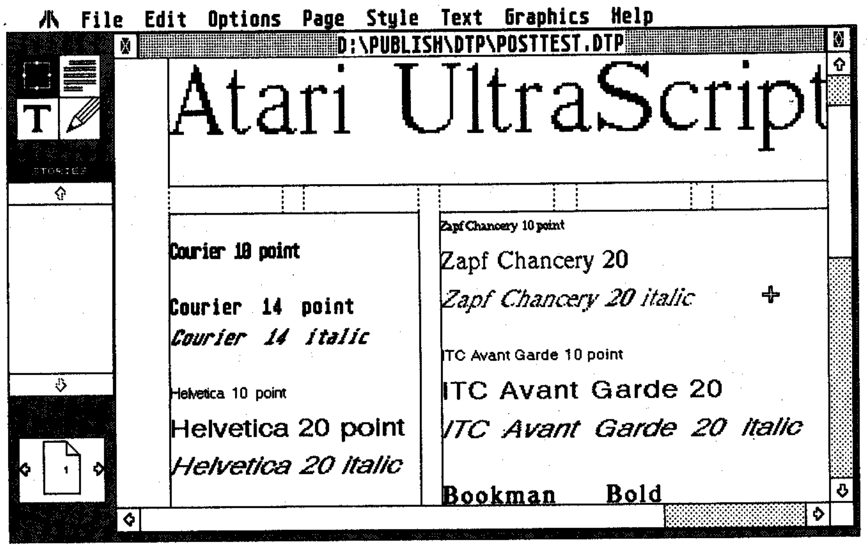
The DTP application already has had to allocate a sizeable chunk of memory to hold the raster-based or object-oriented images of the file the user is creating. Here's a guide to help you conceive how much memory we are about to guzzle: A monochrome raster screen image at 640x400 pixels, consumes 32K of video RAM. A page image for the SLM804 laser printer, with a resolution of 300 dots per inch and 90,000 dots per square inch, would require about 513.6K of RAM just to temporarily store the image under construction, assuming no data compaction techniques are in use.

Now, background process—which means it would only be given one machine cycle per dozen or so for the setting of our now-gargantuan page. Meanwhile, our application—to which the ope—is doing nothing but waiting for something to happen. It may be feasible for the UltraScript driver to have done all the translation and executive work on its own, but the wait would've been immeasurable and the expenditure of memory may have left the memory map of the Mega in shreds by the time the DTP application re-assumed control.

Thus the extra few steps are vitally necessary. When the graphics application's initial installation program is run, the user requests its GDOS PostScript printer driver. Next, through the GEM Desktop, that driver is substituted by the one provided with UltraScript. As long as the new driver is given the filename of the old one (probably PRINTER.SYS,) the application will never know the difference. The UltraScript executive and shell may then be installed separately; both of these will be considered main applications, not background processes, by the operating system, so they will run faster than they would have as solely a printer driver.

This Is Where I Draw The Line

Up until this point, the Mega computer has competed in the desktop publishing field on a level one step behind the Macintosh. The Mac realm had the applications for describing an entire book of schematic diagrams or blueprints, while the Mega realm responded with yet another utility for putting fancy little hand-made letters on typing paper. This competitive weakness ended with the advent of ISD's Calamus, which I reviewed here with zeal just a few months ago. Calamus was perhaps the first real publishing application for the Mega that a professional publisher who is not new to the business would be able to use without having her intelligence insulted. UltraScript, on the other hand, is a magnificent printing system, waiting patiently for just as magnificent an application to utilize it.



Atari UltraScript

Courier 10 point

Courier 14 point

Courier 14 italic

Helvetica 10 point

Helvetica 20 point

Helvetica 20 italic

Zapf Chancery 10 point

Zapf Chancery 20

Zapf Chancery 20 italic

ITC Avant Garde 10 point

ITC Avant Garde 20

ITC Avant Garde 20 Italic

Bookman Bold

• *Figure 3*

The UltraScript package comes with one font group, a large one, but just one, called Lucida. This group is divided into serif and sans-serif, and also contains a symbol and Hebrew character library. It's an attractive font set; but any professional typesetter will tell you, one font does not a proper page make.

Fonts (or "typestyles"), even though they contain no executable code, are classified legally as software; thus manufacturers of printing systems such as Imagen must pay the originators of these fonts—such as ITC, Linotype, and Bigelow & Holmes—royalties and licensing fees to use copyrighted fonts in each of their systems' packages. These costs are, of course, passed on to the consumer. This is one reason the list prices of PageMaker and Ventura Publisher are relatively high , letters really do cost money. This is also a reason why the prices of Atari DTP applications have been relatively low —most of them use imitation fonts, that are different enough from the designs they imitate not to cause legal eruptions.

The sample page shown here as Figure 2 was produced with "little ol'" Timeworks' DTP, with the UltraScript driver and the first of Imagen's font group sets installed. What the reader is really looking at in this picture is the result of a $524.95 expenditure to make a hundred-dollar program produced a decent page. In other words, all the software used for this page put together lists for about $650 (though the Mega DTP4 system buyer would only have to pay an additional $295 for the extra fonts) so now, not only are we in the PageMaker/Ventura Publisher ballpark in terms of quality, but also of price. Furthermore, Timeworks' DTP isn't nearly as capable a program as the two competitors from the other computer realms mentioned earlier, nor is it as adept as Calamus—which, by the way, cannot use UltraScript since its printing system is entirely internal.

So the DTP4 system buyer really does have to spend another $295 to get a real publishing system; the question that buyer must ask is, should the money be spent on the first set of UltraScript extra font groups, or on a better application?

It is no coincidence that the fonts pictured in Figure 2 are those used in the ROMs of the Apple LaserWriter Plus—certainly documents intended for that printer may now be ported over to the Mega with, most likely, no intermediate translation. Notice also the italic fonts... they are real italic, not skewed. Notice the single-penstroke italic e's, the extra curl in the upstroke of the lowercase letters in Palatino Italic. These are characters designed to add emphasis to a statement or phrase, without leaving wide gaps on either side of the emphasized part, and without affecting the amount of space designated for each letter—that's why italic characters are a bit condensed. Notice, though, how Zapf Chancery Italic in our sample is exactly like Zapf Chancery non-italic; this is but a minor mistake on the part of Timeworks' DTP.

Figure 3 depicts in graphic detail one current, though important, problem with Atari's DTP4 package. It shows the page from Figure 2 in the process of being typeset; obviously, what you see is not what you get. No one yet has distributed GDOS screen fonts adapted to represent UltraScript fonts, but that problem will probably be solved over time.

UltraScript has yet to be tested with any other laser printer besides the Atari SLM804; in fact, the package is supplied with only one PostScript printer definition file, describing the mechanical detail of just that printer. For now, the SLM804's 300 dot per inch quality is good enough that buyers may not need to consider other brands; but there will be Mega buyers who already own laser printers, and it would be a shame for them to have to buy a new one just because of the absence of a few-page PostScript text file.

We began this review by asking the question, what would the desktop publishing system buyer be sacrificing if he chose to purchase the Atari DTP4 system, rather than a similarly-configured package from Apple or IBM? Based on the conclusions we've drawn thus far, we can derive the following:

The Atari Mega/ST DTP application has yet to be programmed·which expects to be used in conjunction with UltraScript. Currently, DTP applications expect GDOS, which is raster-based, not mathematically-based, like UltraScript, so they operate in a completely different world of printing systems. As a result, many of UltraScript's more dazzling image and shape manipulation functions have yet to be implemented or supported by Atari software. We can draw object-oriented graphics now, but we don't yet have the facilities for artistically-interweaving text and graphics. Such manifestations of page layout have heretofore been impossible given the restrictions imposed by the raster-graphics processing system of GDOS. Now, with UltraScript breaking new technical ground, Mega programs may

THE ST CONTROL PANEL

by D.F. Scott

Optimism. It is nice to be able to use that word again, as Spring COMDEX left many Atari ST enthusiasts with just that feeling. Worldwide, however, it had been reported that the real developments making news were outside of COMDEX. Intel and Motorola are locked in a rather popular two-way development bout to design and produce not only the most capable CPU, but the one with the biggest numbers in its title. Some observers believed this trend would carry over into the 1990s. There was, in other words, life after COMDEX.

Tell that to Atari. Just when many of its supporters had decided to skip this year's COMDEX for fear of boredom, "Mount Fuji" roared again. Three new Atari executives made their public debut, and were greeted—according to reports—with some of the best critiques since the Tramiel take-over. Two new Atari computer models were displayed publicly, and one privately. Of course, none of these developments escaped the attention of our regular Gang of Five:

David Beckemeyer—consultant, OS engineer, and president of Beckemeyer Development Systems,

Frank Cohen—author, juggler, and president of Regent Software,

Gordon Monnier—publisher, COMDEX showman, and president of MichTron, Inc.,

Charles F. Johnson—author, musician, and co-partner in CodeHead Software,

John S. DeMar- entrepreneur, telecom aficionado, and president of Quantum Microsystems Inc.

Our ST Control Panelists are software producers independent of Atari Corp. As before, out Panelists were contacted individually by telephone, and each were asked the same questions. None were aware of the responses of their colleagues beforehand. Their spontaneous responses were recorded, transcribed, edited in sequence for print, and presented here verbatim. The opinions expressed are solely those of the Panelists.

Question One: Given the extraordinary architectural differences between the 68030 and the 68000 chips, should Atari's upcoming 68030 machine (also known as "TT") be billed more as an ST-compatible, as a UNIX workstation, or as a totally new computer from the ground up?

Frank Cohen: My first reaction to hearing Atari was producing a 68030 machine was, great, finally we'll have a decent platform, considering that with the 68030 they've got hindsight of all the mistakes they put into TOS, we should have a corrected ST. The 68030 runs extremely fast, supports RAM caching, and a whole list of other features that the 68000 didn't have. Part of those features that the 68000 didn't have. Part of those features—for example, the RAM caching—will cause some programs that ran on a 520 or 1040ST, or even a Mega, not to run on a TT. There are technical reasons why, but it basically comes down to, the new 68030 has some mechanical tendencies that make older programs not work. What that means to programmers is that they'll probably have to just recompile their programs using a C or Pascal compiler that understands what the 68030 extra hardware does. In a relatively short amount of time, you'll probably see all the ST products currently on the market with special versions available made for the TT.

It's questionable what version of UNIX Atari is actually going to use. They've announced they're going to use UNIX V.3 or V.2—which, overall, is an industry-standard format of UNIX. However, unless they really license UNIX from the guys who originally wrote it—if they decide to come up with their own version of it—there's bound to be problems. That's what the institutions which buy UNIX machines are looking out for.

It doesn't make sense to point the TT toward one market--the ST market or UNIX market. It makes sense to go after all three markets, those being, the existing ST user base and the dealer channel that already sells the STs, the UNIX buyers—which are mostly scientific and government institutions—and the third channel, which would be actual businesses, to try to take some of the Macintosh and PC market with a UNIX/ST/Macintosh/MSDOS machine. The only problem with that type of attack is, it really spreads Atari pretty thin.

John DeMar: If the marketability of the machine were only a question of its technical aspects, that would make a difference. I don't think it's really a question of the capability of what CPU you have in the machine. If that were the question, people would never have bought any Intel-based machines, because the 8088 through the 80286 are really poorly-designed microprocessors. The 80386 at least has an absolute memory addressing—non-segmented—option of the processor. In that mode, it's a good processor; but very few of them are being used in that mode. If the 68030 weren't a good processor, it wouldn't be in all of the workstations.

What's nice about UNIX is that a very small portion of the operating system is device-dependent. That's why it's so portable to so many different machines. I wish the choice of an operating system and a piece of hardware was based on how well they worked, and all of those technical things, but it's not. It's mostly based on marketing, and how the company [which produces them] has positioned itself with respect to the other companies. IBM's really good at that. It's also [a matter of] management, but it's more what people perceive as what the company is capable of doing, not really what it's capable of doing.

The newest people now [at Atari, Joe Mendolia, VP Marketing; Mike Dendo, VP Sales; Tony Salerno, VP, Software Marketing], I think, are really enthusiastic. I think they're really capable people. Unfortunately, they don't have final say and control over what they actually do. It has to be approved by the bosses. Longer-term planning would be [for Atari] to position themselves for taking a dent out of these [workstations]—and I think they truly want to do that with the 68030 machine. I don't think they have the willingness to spend the money to convince people that they're really there.

Gordon Monnier: All three. They'll advertise it as a new computer that's upwards-compatible. [As an ST-compatible], it'll have a smaller graphics screen, and it'll be slower.

I've seen one of the TTs, and got to play with it for about an hour. It ran all software fine, ran it a heck of a lot faster than what it does on a 1040. For the first few [TT] programs, all you're going to see is better graphics with more speed. If [these programs] are using only the higher resolutions of the TT, you won't be able to run them on a 1040. One thing we've noticed is, some of the [ST] programs will run now in the higher graphics mode, if the guys wrote their programs properly using the proper GEM calls. GEM will automatically run the programs in the correct resolution. Not everybody wrote their programs that way, though. We had one of ours that came out—I forget which one it was now—but it looked really nice in one of the higher-resolution modes.

People aren't going to buy a graphics program that won't run on the TT. The only one we were really worried about was Fleet Street Publisher, which does use a lot of graphics on the desktop publishing end. The version we're selling now works fine on [the TT]. We had a beta copy of 3.0, and that didn't work, but by the time we release it, naturally, it will work on [the TT]. HiSoft BASIC works fine on it, and a couple of other programs work real well.

David Beckemeyer: As an ST-emulator, it's only significant in the sense of how big the ST market is at the time it comes out. If the ST market isn't that big, then it's only important to that small group. If it does something else way beyond that, then maybe it'll sell to a whole new group. Personally, I

◆ ULTRASCRIPT: MORE THAN A FOOTNOTE

at last concentrate upon the creative portion of the page-layout process, while the UltraScript driver diligently takes care of the dirty work of putting it all on paper.

The STs and Megas have yet to see an application with the graphic power and flexibility of Adobe Illustrator for the Macintosh, which was conceived by many of the same people who created PostScript, including John Warnock. Imagen spokesperson Rich Willis tells us his company is not interested in programming exclusive graphics applications for microcomputers, that Imagen is in the business of selling printing systems. Atari systems will constitute a small percentage of Imagen's overall installed UltraScript user base; so such an effort may indeed be unprofitable. It is up to the existing Mega/ST software authors, says Willis, to produce a product of Illustrator's quality; and Imagen will do whatever is within reason to support such efforts.

The DTP4 system user must have implicit knowledge of precisely what is going on within the system at every moment. ST users have a tendency to want to know their equipment and software forwards and backwards; whereas the Macintosh was designed for users who do not necessarily wish to have implicit technical knowledge of their machines activity. Like a classic sports car, the Mega is a machine the user gets to know part-by-part.

Finally, the Mega buyer will be sacrificing a significant opportunity for him to go into tremendous financial debt. For a savings of up to four grand, the Mega buyer will have to put up with, temporarily, the fact that the Mega/ST's optimum graphics application has yet to be developed for any machine, it must and should be for the fastest and most flexible of the three 68000 machines available. In a very short time, the question we ask will not be, " What will the buyer be sacrificing," but "How much did the Mega buyer gain?"

◆ THE ST CONTROL PANEL

think that a 68030 machine now is fairly run-of-the-mill. The 68040s are shipping now, and work is being started on the 68050; the 68030s going to be eclipsed so fast that it's almost a transition shift. If [the TT] comes out right now, it's got a short life; if it comes out a while from now, it's got a way-shorter life.

You could say today that software developers have barely caught up with the 6502, in terms of the software making [the CPU] do everything it's capable of doing. So clearly, when you come out with a new superchip, you're just that one step farther, and the software's getting farther and farther behind all the time. The operating system software becomes so complex that it is a never-ending problem; but just the fact that the CPU raw is faster, even a poorly-designed operating system could get some advantages.

One of the problems is, you can't really afford to do the development often to the software, because you know if you optimize too much for this chip, you're right back where you started when they come out with a new chip. You actually find that the more generic stuff is what you end up [using]; and in reality, you're probably paying some performance prices for that, but then the hardware is so much faster that overall performance is still better.

That's one of the advantages of having a processor that's had a life as long as the 68000: since the chips are similar, and the first chip was pretty good, it means migration up through the series is a lot better.

Charles Johnson: The best thing would be to be all three, of course. The rumors I've heard indicate that they do have TOS working on a 68030 machine already. Really, I don't see why they wouldn't be able to; only a few changes are necessary—like changing the LINEF routines to not use self-modifying code, for one. I've also heard that there are going to be hooks for developers to be able to tell whether they'll be running on a 68030 machine or a standard 68000, which is nice, especially for us at CodeHead, since a lot of our products have to hook into system vectors and watch the stack for which function codes are coming through. With the 68030, there's an extra word pushed onto the stack for every exception, which means the places where we're looking for function codes are not holding the data we think they are. So we'll be able to fix our software to work with that stuff as soon as the machine comes out.

The [TT] prices, I think, are going to be in the $2,500-$3000 region. That still, to me, seems pretty high. You can buy a used car for that much money. I still think that a used car is more valuable, in more consumers' minds, than a home computer. The new Sun and Apollo workstations are serious competition for the Atari machines. They've got much more capable graphics than the Atari 68030 machine. In its high-res mode, I think the Atari is only capable of 16 colors simultaneously. I believe most of these Sun and Apollo workstations can do much better than that; and they're comparably priced. So somebody who needs a machine like that may look at the Atari 68030, and compare it to the Sun, and go, hmmm! There is a lot of really good professional software in the Sun market. You pay through the nose for it; but that might be a big factor in the decision.

Eventually, there's not going to be too much perceived difference between a workstation and a personal computer. I would say in five years, you're going to see that line blur quite a bit. That's just the way it should be, really, because as the computers get more powerful, they're going to have more influence over everyone's day-to-day life. People are going to rely on them a lot more.

The TT has a VME bus, I believe; so at least that'll give it access to quite a bit of pre-existing hardware attachments, for graphics and that type of thing. Knowing Atari, they'll probably change something about the bus, so things won't work right out of the box.

Question Two: At the last COMDEX, Atari introduced a more-finalized prototype of its portable ST, which may be called "STacy" and may not, as well as the miniature PC called "Portfolio." Will these two machines generate real revenue for Atari—and the rest of us—or will they merely be considered novelties by the buying public?

David Beckemeyer: If I actually knew these answers, somebody would be paying me lots of money. My gut feeling, from the feedback that I've been getting, is that there is a little bit of a ho-hum, me-too type of feeling I get from people about the STacy and the Portfolio. The feeling I get back from the STacy is along the line of, it's too expensive compared to the competition—that's from many normal end users who don't often say those sorts of things. On the Portfolio side, there's clearly a me-too kind of feeling. I have the feeling that it would be pretty hard to compete with the miniature PC market. There are a lot of them well-defined out there; and I think the disadvantage Atari has going into that market is that the other companies have spent a lot of money and time building that dealer base, and it's going to be hard to crack that end of it.

Gordon Monnier: The little computer [Portfolio], I think, is going to be both. It's going to be a novelty, and it's going to generate a lot of money and a lot of talk. I can't wait to get my hands on a couple of them. I think they're going to make fantastic Christmas presents. It's a $399 list price, which means you'll buy them for $300. What I think [Portfolio] is, is the next generation programmable calculator.

STacy, I have no idea what that's going to do. It'll take the MIDI market by storm, because those people really love a portable that they can carry around and set up on the stage. Those guys are drooling over it. How the rest of the world is going to react to it, I don't know. I think STacy will be all right; I don't think it'll be a fantastic seller, but it'll do okay. It could be a gold mine.

I really couldn't see somebody who doesn't own an ST buying a STacy. For the same money, they could buy a PC clone and have access to a lot more business software. The guy who's going to buy that is going to be a businessman. It's going to be primarily for the guy who already owns an ST, as a second computer. It doesn't look like Atari did much redesigning on this thing at all. Basically, it's a 1040 in a smaller box.

John DeMar: The PC Portfolio is definitely a marketing move to create some interest from a novelty that probably won't make a lot of money. I don't think they had to pay a lot to have that product have an Atari name on it. The company that developed it was not having an easy time finding someone to invest in the production and marketing of the thing. I don't know the exact numbers, but I have a feeling that it was an inexpensive move for them to have a neat thing to market to get people in the PC world to wake up [and see] that Atari is there. I agree with that; it was okay. I don't think the computer is too useful, but that's part of people's marketing plans that have worked—to have an up-front gimmick. If that's the way [Portfolio] is being used, that's good; but if they really think that's something useful that they're going to make money off of, I wouldn't agree with that.

The STacy is a sore point with me. It could be designed as an extremely useful machine. It has somewhat of a market the way that they have it shown now. I bet they delay the thing and go back into redesign, based on the conclusive feedback [I get] they they have not learned from the other laptop portables people have made already.

There are three things [which need redesign]: One is, the display that they originally planned had better be in the thing, and not the one people tell me they've been showing, which is the typical goldfish Grid computer-like display. The one that was better was the Super-twist blue backlit LCD, that was shown at COMDEX in Las Vegas in last fall. That's the choice of displays that should be used in a new-generation kind of [laptop]. The display had better be, somehow, removable—not just either closed or cocked open—because you cannot use it with a standard monitor. Where do you put your keyboard with relation to the monitor if you can't get the stupid flip-up display out of the way? Big design flaw; and I don't see how they could ever do that when the Sharp portable, and even the Tandy, folds back. Somebody hit them upside of the head.

The keyboard is positioned incorrectly in the case. It does not have the typical tapered layers of keys, like in every keyboard ever used. It was fit in the case to be able to have the top close, without the person in mind who is using the keyboard. You would have to tilt the computer up in the back to make the keyboard the typical, comfortable keyboard. At that point, the angle of the monitor is in the wrong place. I would want it to be able to hook up to a regular monochrome ST monitor while I was in the office, and then just be able to pop [the display] back on, or flip it 180 degrees.

The other thing is, a lack of really knowing what a portable is typically used for: It doesn't have a modem in it. Every portable either has the modem [built-in], or the capability of snapping one in somewhere without having to drag cables all over the place. A portable without a modem, I think, really misses about 80% of the people who want to use the thing. Even at 2400 baud, the ICs necessary to [have included a modem] are really inexpensive. Amstrad portables for $8-, $900 have 2400 baud modems built into them. You include something in the basic model of a product if it meets a majority of the people's needs; and a modem does. It should be in there, and not just be an exception... There isn't a portable with the specs of a STacy—with a modem it it—for the price of an AT portable.

They did lay out [the keyboard] nicely, but they forgot to have a standard ergonomic plan on the keys. You don't call a flat panel with buttons on it a keyboard. A keyboard follows the standard old-typewriter style and ergonomics, with a little bit of layered tier to the keys to give you that normal feel. It doesn't have that, which tells me either of two things: Either the designers don't know what they're doing, and

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APPLYING THE ATARI

by Jeff Brenner

This month marks the fifth anniversary of the "Applying The Atari" column! We've come a long way since the first column appeared in August 1984, and we've also witnessed substantial changes in the Atari world. Back in 1984, when the 8-bits competed against Apples and Commodores, their owners were determined to prove that their machines were far more than just "game machines." With a growing selection of software titles that took advantage of the versatility and power of the machines, Atari owners were proving that their computers could do virtually anything the Apples or a Commodore could do. Five years and several models later, the 8-bit Ataris' biggest threat is Atari's own ST machines, and the fight now is for the very future of the 8-bit machines.

Despite the decreasing level of support from software manufacturers (and notably from Atari itself), hundreds of thousands of 8-bit machines across the country and around the world continue to purr away, providing their owners with great entertainment, education and practical applications. As letters printed in the past few columns have indicated, a good number of 8-bitters have found that their Atari fulfills all of their home computer needs, and have no intention of "moving up" to an ST. Even in households that have found a need for an ST system or IBM compatible, readers tell me that their 8-bit machines remain very active computers.

New Product

From England comes a new page designing program called Page Marshal. We already have The Newsroom, Page Designer, News Station, and others, but Page Marshal offers several powerful and unique features of its own. The program features an 80-column by 80-line WYSIWYG (What You See Is What You Get) screen which displays the characters sets and page format before printing. A unique character set can be used on each line of the display, if desired, and included with the program is an assortment of alternate fonts.

Page Marshal was designed primarily for making charts and graphs, but also supports the creation of diagrams, forms, newsletters, and even musical scores. The program runs on an XL/XE with a minimum of 64K and requires an Epson-compatible dot-matrix printer. For more information, contact: Valar Software, 115 Vale Road, Portslade, Sussex, BN41 1GE, England.

Readers Helping Readers

In the May 1989 column, I published a letter from Tony Venticinque of Bolingbrook, Illinois. Tony was looking for an adapter manufactured by SWP, the company responsible for the ATR8000. A big "thank you" goes out to Dr. Bill Barry of Tampa, Florida, who has generously offered the adapter to Tony at no charge. This is another fine example of how 8-bit Atari owners can help each other in locating hard-to-find 8-bit products and is also typical of the kind of help and support you can often find at your local users group.

Newsletters

We've got a backlog of great newsletters to review, and I'm including as many as space permits. This month includes newsletters from March through May (late May newsletter arrivals will be covered in a future column). If you like what you see, don't hesitate to write or call the groups responsible for these publications. Subscription and membership information is generally available upon request. Current newsletters can be submitted to me c/o *Computer Shopper* at the address listed at the end of the column.

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◆ THE TI FORUM

allows you to FORMAT or do a DIRectory of a disk, change file protection (with LOCK or UNLOCK) or RENAME files, and even do some interesting things with text files (such as TYPE a DV80 file so that it can be viewed on screen, COPY a DB80 file from one drive to another, or APPEND one DV80 file to another).

SUPERBASIC offers many features that can be found in other programs, occasionally in a more powerful form. For example, SUPERBASIC offers 32 user-programmable ("hot") keys (Control-A through Control-Z plus 6 other control keys). In this, it is similar to TI KEYS, PC KEYS, EZ KEYS PLUS, etc. (and better than some), but in certain situations Asgard Software's EZ KEYS PLUS may be more flexible and powerful. To be specific, with SUPERBASIC each key can be assigned a string of up to 30 characters (terminating, if you wish, with a blank space or a carriage return), but EZ KEYS PLUS allows more. Likewise, SUPERBASIC has an ENTER command that reads a program listing from a DV80 file and merges it into program memory, which is a very nice feature. However, Paragon Computing's TEXTLOADER offers the same facility in a form that some people prefer, although SUPERBASIC itself performs this function quite well.

The strength of SUPERBASIC, as I see it, is twofold: (1) it offers a unique "mix" of features perhaps found elsewhere in various separate programs, and (2) it offers some features that may exist nowhere else.

SUPERBASIC contains a number of helpful editing commands. Now, some of these are not much different from those found elsewhere. With SUPERBASIC, you can DELete groups of line numbers and RENUMber segments of the program in memory without altering the line number of the rest of the program, but SUPERBASIC's DEL and RENUM work much the same as DEL and the modified RES in Triton's SEB. The JOIN command in SUPERBASIC, however, appears to be unique to itself. What it does is join two Extended BASIC lines together, allowing you to save memory. True, there are programs around like SMASH and XBASHER that compress entire XB programs for you, but often I like to make my own decisions on what to join together, and SUPERBASIC makes this simple for me. (I do wish that a counterpart to Triton's COPY command had been included in SUPERBASIC, but perhaps we can persuade Steve to consider that for version 3.0.)

Other nice editing features available while in command mode using SUPERBASIC are the commands to search for text or XB tokens in an XB program. For example, if I want to find where the token for OPEN is found, all I have to do is enter "/OPEN," and SUPERBASIC immediately provides the line numbers. If I want in what line I put "INPUT "Incoming file? ":F$," all I have to do is enter "!Incoming," and SUPERBASIC tells me what line. If you're an XB programmer who sometimes writes fairly lengthy programs, you'll love this feature.

The EDIT command allows you to edit a DV80 file without leaving XB, done by reading the file into memory with each line preceded by a line number and an ! (remark indicator). After the file is edited (using editing features of XB and SUPERBASIC), you can WRITE the edited version back to disk (where it becomes a normal DV80 file again).

There are a number of other features of SUPERBASIC that can only be briefly mentioned in this short review. For example, pressing Control-. (Control-period) while in command mode causes "SAVE DSKx.filename" to appear after the cursor, with "DSKx.filename" taken from the last time you used the OLD or SAVE command. Another example: if your computer "locks up" while you are programming, SUPERBASIC allows you to RECOVER most or (usually) all of your XB program. QOFF and QON permit you to disable or re-enable the FCTN-QUIT key. The ENTER command allows you to use a batch file for entering commands in XB. And on and on. (I didn't even get to mention that XB program lines are easier to edit because of being able to tab or do selective erasure.)

Reviewing SUPERBASIC, Charles Good of the Lima (Ohio) Users Group commented that "the particular combination of features found in SUPERBASIC is not found in any other software package." I think that remark is right on target. I came to SUPERBASIC perhaps somewhat prejudiced against it (perhaps because I tend to dislike copy protection of any kind, believing that it limits legitimate purchasers of software more than it limits the pirates), but—upon investigation of its features—I came to be enthusiastic about SUPERBASIC.

One minor quibble before I end, and one positive suggestion. Steve notes that "SUPERBASIC commands will be recognized, but they will produce a SYNTAX ERROR, if they are assigned to a softkey with a carriage return appended." I found the same SYNTAX ERROR" message occasionally occurring when typing in commands (like "/THEN") from the keyboard in command mode. The commands always worked properly, so I'm not sure why "SYNTAX ERROR" appeared, but it was a minor irritation. The positive suggestion is that if the author considers possible alternative versions of SUPERBASIC for the future, it would be great to have one that would have full compatibility (except for graphics routines, of course) with the Triton Super Extended BASIC and/or the Mechatronic XB II+, so that all the best features of both are available at one time.

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THE COCO COLUMN

by Dan Robins

In this month's Coco Column, we continue to look at how to make a Hayes-compatible modem tick with the CoCo, and how to manipulate the registers to make it do what we want to do. We also answer letters from our readers and once again, invite you to participate in the Second Annual CoCo Poll.

Hayes Modems And The CoCo

In the last issue of the *Computer Shopper*, we covered the first part of what makes a Hayes compatible modem tick, and how to use it with the Color Computer.

The "registers" of a Hayes compatible modem are quite important, as they allow you to set the modem to do certain things in a particular manner. The syntax for setting a register is: Sx=??. The "x" is one of the 17 registers which can be set, the "??" is a number that you want the register to equal, and we'll explain what those different numbers do.

Register S0. This register will tell the modem how many rings to allow before it answers the phone. The number you place in this register can be from 1 to 255. If you place a zero in the register, you are telling the modem NOT to answer the phone. The command: "S0=4," would tell the modem to let the phone ring 4 times before picking up the phone.

Register S1. This is a register you won't want to program, but you could monitor it. The number in this register is the number of rings the modem has already received. When this register equals S0, the modem will pick up. If the phone does not receive a ring in 8 seconds, this register will clear to 0.

Register S2. This is the escape code character that the modem will recognize. Normally the character is the ASCII character value of 43 (the character "+"). If you wanted to change the escape code character, the command: "S2=27," would change it to the character CHR$(27).

Register S3. This register controls what the modem will accept as a carriage return. This is normally set as ASCII character 13 [CHR$(13)]. Since most computers, including the Color Computer, recognize the CHR$(13) as a carriage return, you won't want to change this register.

Register S4. Like Register S3, you probably won't want to change this register as it controls what character is recognized as a line feed, On the Coco and other computers, this is set as ASCII character 10 [CHR$(10)].

Register S5. As in the two previous registers, this is another one that you won't want to change. This register controls the character recognized as the backspace character. Set as ASCII character 8 [CHR$(8)]. It's pretty standard amongst the computer industry.

Register S6. This is the time the

ATARI ATAI CLASSIC COMPUTERS

◆ APPLYING THE ATARI

The following newsletters are listed in alphabetical order:

The ACORN Kernal is the publication of the Atari Computer Owners of Rochester, New York. Their April and May issues contain Atari news and articles on BASIC, the RAM shortage, and DataQue's Turbo 816. Contact: A.C.O.R.N. P.O. Box 23676, Rochester, NY 14692-0676.

Atari Interface Magazine is the official newsletter of the Cascades Atari Computer Enthusiasts (CACE), the Capitol Hill Atari Owners Society (CHAOS), the Genesee Atari Group (GAG), the Greater Kalamazoo Atari Users Group (GKAUG), the Great Lakes Atari ST Support (GLASS), Tinker ACE of Oklahoma (TACE), Tri-City Atari Group (TAG) and the Washtenaw Atari Users Group (WAUG). The April issue includes Atari news, an article on the Michigan Atari Computer Expo, and reviews of Discomm, SuperArc/UnArc and Necromancer. Contact: Unicorn Publications, 3487 Braeburn Circle, Ann Arbor, MI 48108.

The LCACE News Journal is the newsletter of the Lake County Illinois Atari Computer Enthusiasts. Their March and April issues contain articles on the XF551 disk drive, 8-bit technical tips, Atari news and game reviews. Contact: Lake County Atari Computer Enthusiasts, P.O. Box 8788, Waukegan, IL 60079-8788.

Keeping PACE is the newsletter of the Pittsburgh Atari Computer Enthusiasts. Their March issue contains Atari news and reviews including a review of the Diamond GOS cartridge. Contact: Keeping PACE, P.O. Box 13435, Pittsburgh, PA 15243.

The PACUS Report is the official newsletter of the Packerland Atari Computer Users Society. The April issue features Atari news and articles on Atari shows and BASIC. Contact: PACUS Report, 2714 S. Eleventh Pl.., Sheboygan, WI 53081.

The April issue of Phoenix, the newsletter of the Toronto Atari Federation, contained Atari news, a review of Movie Maker, and a special April Fools' section. Contact: Toronto Atari Federation, 5334 Yonge St. Suite 1527, Willowdale, Ontario, Canada M2N 6M2.

Runes is the newsletter of the Midwest Atari Group—Iowa Chapter (MAGIC). The Winter/Spring issue contains Atari news, a review of Edit Magic, and an article on cleaning the 130XE keyboard. Contact: MAGIC, P.O. Box 1982, Ames, IA 50010-1982.

The April/May issue of SPACE Probes, the newsletter of the South Central PA Atari Computer Enthusiasts, contains Atari news and a modified project from the Seattle Puget Sound Atari Computer Enthusiasts which converts the Atari 8-bit CX22 trackball into an ST compatible "mouse." Contact: SPACE, P.O. Box 11446, Harrisburg, PA 17108-1446.

Readers' questions, comments and suggestions are welcome. Address all correspondence to: Jeff Brenner, "Applying The Atari 8/89", c/o *Computer Shopper*, P.O. Box F, Titusville, FL 32781-9990.

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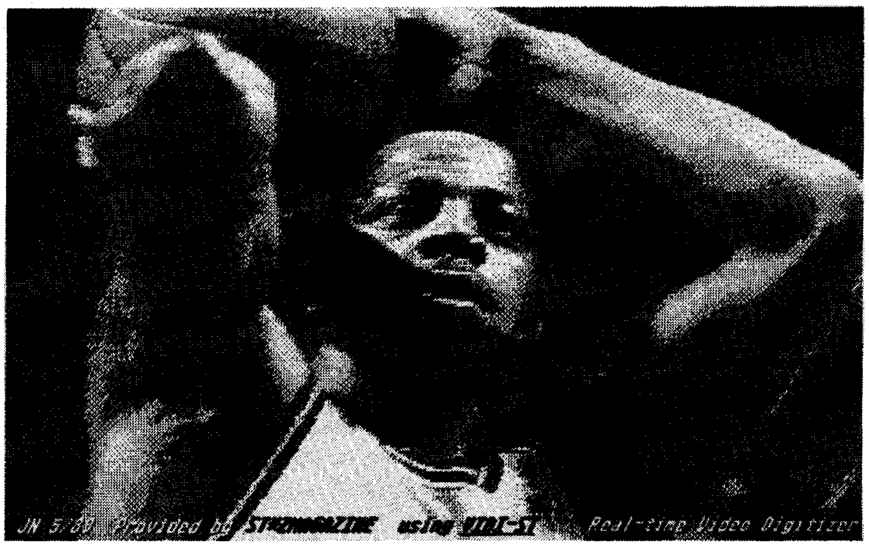
◆ ATARI ST NEWS AND COMMENT

from page 258

Advertising, considered by most Atari-watchers to be the key to domestic recognition, has continued its recent upswing. The Mitsubishi Horizon commercials have offered the USA a glimpse of the MEGA DTP system, although the tour of shopping malls we told you about a few months back has proved to be more an embarrassment than a boon. It seems Atari had arranged for a dealer to help host the auto-show tour that features the Atari system in its promotion of the new car, but the contract only dealt with the machines. Mitsubishi changed negotiators at about the contract time, and the new one said NO WAY to sharing the floor with other sales people. The result is that the tour continues, but no one from Atari can be on-site to help demonstrate the computer. User groups who hoped to help have also been waved off by Atari, who say it is simply out of their hands now.

TOS 1.4? Oh yea, I remember that. It was to be available last year. Well, it's almost ready for public release now. Some folks have screamed about this delay, as the new operating system ROM Chip will improve a great many operations of the ST and MEGA computers. We reported last month that new MEGA machines were being shipped with the new chip, but this has turned out to be a premature announcement from Atari (direct from Sam Tramiel himself). While I look forward to the new chip set release, I strongly doubt that there will be a huge line of users waiting to pay upwards from $100 for it.

In the third party news, Happy Computers has filed suit against Gadgets By Small, claiming defamation and slander of Happy products and personnel. This is a fairly unusual case, as it depends on content of messages posted on national telecommunications systems (GEnie and CompuServe to name a few). Claiming that the comments in question were fair and open discussion, David Small's attorneys state that the suit is without merit and countersuits are being considered. Incredibly, Happy's Richard Adams sideswipes Small's GCR product (a



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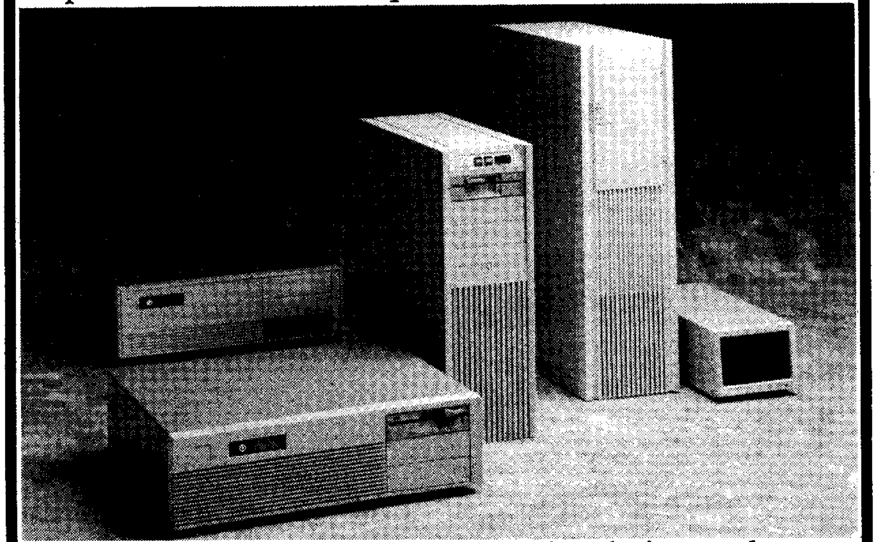

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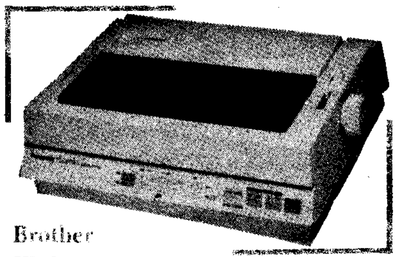

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◆ ATARI ST NEWS AND COMMENTS

Macintosh emulator to be released in August that allows read and write of Mac disks while executing Mac programs) in the May issue of *ST World* magazine. While admitting to not having seen the GCR, Adams proceeds to explain what is wrong with the design and why no one should want it anyway. This is the same sort of opinionizing that led Adams to sue Small, and most lawyers would cringe to see client seek such publicity mid-suit. Don't expect this case to make it to trial.

Also in the Mac emulation news is C.E.K.A., or perhaps more correctly, WAS. This was a highly touted design that was to revolutionize Mac emulation on the ST—but the developer and his plan disappeared as quickly as they had come, leaving only speculation behind. Was CEKA a hoax, or an effort to undermine the Mac market of Small and Happy, or simply a grand idea whose time has not come? Film at eleven. If you find out, let us know!

Wuztek has announced that they will shortly have an addition to their outstanding line of alternative monitors for the ST. Although priced to match their high performance, the all resolution monitors in either color or monochrome represent a valuable technology. Current models are usable on a variety of machines and run $699.95 for a color unit, mono $399.95. The new one will be color, Atari only, and cheaper than a pair of original monitors, You'll only need one for everything. (714) 544-7888.

Last month I told you of a fine offer to user groups being made by Practical Solutions Inc., makers of VideoKey, TweetyBoard, and more. The phone number was incorrect. Contact PSINC at: Practical Solutions, 1135 North Jones Blvd., Tucson, AZ 85716, (602) 322-6100.

I also promised looks at the new software shown, announced, and released at Comdex and the Anaheim World of Atari Show. However, I had not expected quite so much extra news to report in the meantime. Richard Tsukijhi has announced plans for his World Of Atari tour that at this point have a show in August in Irving, Texas (near Dallas and Forth Worth), another in Seattle probably in early October, and possible shows in Boston, Dayton, San Jose, and somewhere in Florida—and another in Anaheim. I'll have info from the second of the tour dates, the Detroit World of Atari Show, in next month's column.

Anyway, here goes with the new releases! I mentioned the new Touch Up software from Migraph—it augments the original Touch Up (only six months old!) with rotate-by-degree in a simple grab-pull or fill-in digital methods. Also is a greatly enhanced zoom window indicator that shows close-up detail in the corner even when you are working on a large image.Helpful! The new Touch Up also works on the 19" Moniterm Monitors. The new Touch Up does not use the PSK device (which plugs into the printer port and must be present to operate the software), allowing more portability, hopefully without more piracy. Upgrades are available, and a $15 credit will be given to those returning their PSK. Curiously, a downgraded package called "Touch Up Lite" will offer much of the basic power of the Migraph IMG editor and creator without the full cost of the major package. All of the new versions support the Scanners that Migraph will be offering by the time you see this. Both a handheld 400 DPI unit and a flat-bed scanner will allow direct input to the editor, allowing unparalleled real-time control of digitizing and editing images. Migraph, 800-223-3729.

I also promised some sample output from the VIDI-ST real time video frame grabber. I am including a single frame of an animation done on the VIDI-ST, of Pistons' Vinnie Johnson setting a free throw, take live off the TV. The full sequence is among other .SEQ files (Cyberpaint format) that I have posted on GEnie and CompuServe, and they are making their way through the BBS systems and clubs. Be sure to see these, as they include full speed action sports shots, in high detail. The VIDI-ST collects a single frame from any composite source (camera, tape, even a TV) in 1/60th of a second, and can get as many as 14 images each second into storage in your ST or MEGA. Retailing for $199 and available for less at some distributors, contact Computer Games Plus for details. 800-443-8189.

Codehead, makers of G+Plus and MultiDesk, introduced Midimax and Hotwire this spring at the World of Atari, Midimax is a professional musicians performance tool, and operates both as an accessory and a program. It can control and redirect any MIDI calls, remap and make macro, create model harmonies automatically, and more ($49.95). Hotwire is a desktop alternative that allows instant access to your applications without searching disk directories ($39.95). Codehead, 213-386-5735.

Imagen brought out Ultrascript some months ago for emulating PostScript on the Atari Laser Printer—now they have UltraScript for use on Dot Matrix printers! 9 and 24 pin Epson-compatible printers can use the new product if you have at least a 2 meg of memory on the ST or MEGA driving it. Quality is outstanding, though there are reports of some limits

◆ THE ST CONTROL PANEL

from page 262

Atari hasn't done their homework; or they really know all these things, and they wanted to gt to the show without spending a lot of time, and it's really going to take longer to get this out than they say it is. I think it's the latter.

Charles Johnson: I have my doubts about the STacy, although it is a nice machine. I'll probably buy one instantly, as soon as it's available—if I can't convince someone to give me one for free, which I probably can't. The machine itself actually has a keyboard that's nicer than the standard ST's keyboard, better than the Mega's keyboard, believe it or not. Funny, with their portable machine we finally get a decent keyboard. I think its primary audience is going to be people who already own STs, which seems to me isn't going to do a whole lot to expand Atari's market in the US. On the other hand, the Portfolio machine might attract some people. I have never played with one of those, [but] it seems like that little keyboard would be a real hassle for any kind of serious word processing.

STacy even has a little clipboard; you can hang little sheets of paper from the panel right next to the monitor. The clipboard doubles as a retaining clamp for the trackball. It's got the full set of ports on the back of it. It's got everything; it really is a complete ST.

Frank Cohen: The STacy will definitely generate a whole bunch of revenue. A weekly Macintosh magazine talked about STacy as a Macintosh portable, using Spectre 128. Obviously, the Macintosh people are looking at that, considering Apple stalled plans to come out with a laptop. The only laptop Macintosh right now costs up around $3500—which is out of the price range of most people. The MIDI market—although that might not turn out that much unit sales —certainly will eat this thing up, because the STacy has all of the ST ports on the back of it—serial, parallel, MIDI in and out, and there's an easy-to-add SMPTE-decoder that Atari is working on.

During the COMDEX show, they actually opened up the machine for me to play around with a little bit; and the keyboard is incredibly impressive, compared to anything the Atari has put out in the past. It's even a lot better than the Mega STs—the Mega being an improvement over the 520 and 1040. As a writer, I like to use [brand of] portable laptop computer just because it has a nicer keyboard than the STs.

I see STacy as being an exciting new development for Atari. It's very, very competitive with the other laptops, and the price is right. As far as the Portfolio goes, I have my doubts as to whether it'll ever ship to the United States. Atari's efforts to show the Portfolio have all of the signposts of some other past vaporware products. For example, although the keyboard itself is laid out in a QWERTY format, it's just too small to do any sort of touch-typing. That's not so bad, because nobody expects it to be a big input terminal, but that means, if you have large volumes of text that you're going to want to review, the only way to get it into the machine—since the keyboard really isn't available for typing—is to down-

◆ ATARI ST NEWS AND COMMENT

to the emulation. Expect the product to improve, and in the meantime, it is plenty good. $229 Imagen, 408-986-9400.

MicTtron grabbed the UltraScript bundling rights during the Anaheim show. Their desktop publishing package, Fleet Street Publisher, will be the only system to be offered in a bundle with UltraScript. Not co-incidentially, it is the only existing ST DTP system that is PostScript compatible enough to print-through direct to an Atari Laser using UltraScript. The bundle will be very affordable, and may even offer the cheapest possible way to get UltraScript. Owners of Fleetstreet can expect to be offered an upgrade deal. Also, look for Fleetstreet V.3 this fall.

Other MichTron offerings include the brand new ST Tuneup hard drive optimizing and backup system (which I will review in more detail soon), Hyperfont font editor for GDOS and other DTP systems, and Talespin, a graphic adventure game creator. Migraph, 313-334-5700.

Beckmeyer Development introduced their new Turbo POS (Point Of Sale) multi-user software and hardware at the World show. Previously only available as custom packages engineered for individual clients, Beckmeyer has taken the best of what they have developed and put in an off-the-shelf package that users can adjust themselves. This looked like a really complete package. A free demo is available. 415-452-1129.

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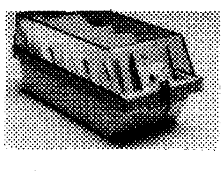

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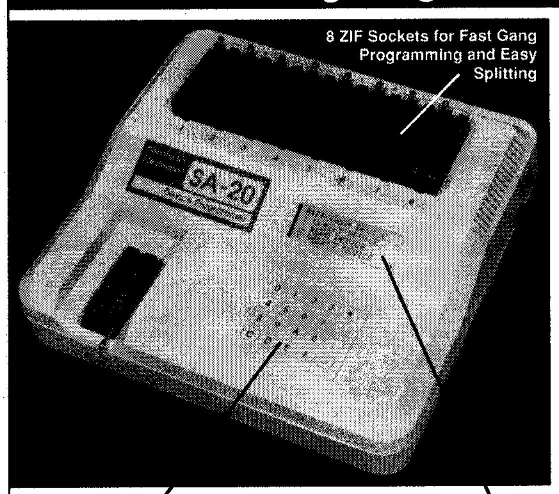
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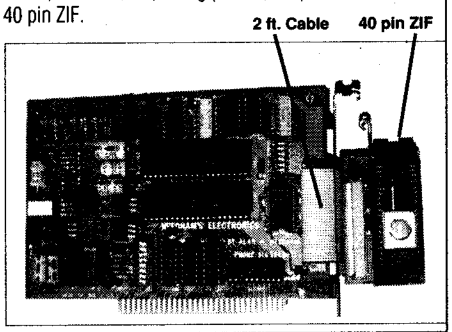

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◆ THE ST CONTROL PANEL

load the information from a personal computer like an ST or PC into the Portfolio.

During COMDEX, they were showing a videotape of the Portfolio being used by the English company that developed it. In the video, they showed a data card that slides into the Portfolio, that has memory which can last even when the power is turned off. That card can be pulled out of the Portfolio, and put into what looks like a disk drive on your PC. So what you would do is copy your files onto the data card, and then pull the card out of the PC and plug it into the Portfolio, and then take Portfolio on the road.

When I asked Atari's representatives about that half-height drive, they said they didn't know anything about it. When I asked them if they could check it out, they came back to me saying they had no plans right now to introduce that kind of product—however, it'll probably come out in the future. So then I asked, well, what about connecting the serial ports through a null modem cable, so you could use the built-in telecommunications program in the Portfolio to communicate with your ST? The Portfolio itself, I was told, has no serial or parallel ports in it immediately; for that, you need another type of data card that'd have those ports on it. Those cards apparently piggyback to other cards, so that if you wanted to extend the Portfolio's memory by plugging in another cartridge, you'd plug the serial card in first, then you would plug the other card on top of that. You'd have this memory card, like, hanging out from the side of it. This was Atari's first public viewing of the machine in the American market; and there's a good chance that Atari's personnel weren't told what Atari has in the works.

I was talking to Atari's Sales and Marketing team; if they don't know about it, who would? It seems almost classic now. Without this interface to a PC, what is the Portfolio other than a glorified calculator? Why would you spend $400 to do something that Sharp's model can do for $150.

Question Three: Atari spokespeople have said that by press time (August), the Corp. intends to have released a '386-based PC with a 60 Mb hard drive, VGA graphics, 2 Mb RAM, 64K static RAM, clocked at 16 MHz and selling for under $3000 (its tentative title is PC6). If Atari can pull this off, will it affect the ST product line, good or bad?

Gordon Monnier: Well, there's other computers in that price range already. That's no big deal. Then you're talking August too. I'm surprised they don't say they can do it for under $2000, to tell you the truth. Sanyo's selling its '386 at a retail price in the $2500 range. I can't see the relevancy of [Atari's '386]. It's just going to be another PC clone.

There's people who like the PC clone, and people who want the ST. Atari will sell [the '386 machine], I'm sure. If they come out with that before they come out with the TT, then people are going to think that's the best computer they're selling—because I think the 60386-based machine is better than the 68000-based ST. The graphics aren't quite as good, but it's immensely faster. The TT is really what they need [in order] to compete with an 80386 machine. Otherwise, the best computer Atari's going to be selling will be the 80386.

Which way is Atari trying to go? They've always given me the impression that the ST was their flagship, but now their doing this. I don't know. The TT design is lag time; it should've been out by now.

John DeMar: I don't think it will affect us. I don't think Atari will be successful [producing a '386]. Everybody can buy a VGA '386 maching now anywhere for those prices, from what I've seen. It's not that drastic. By the time they actually do get it out, it'll be less important of a price.

It won't affect anything that's going on in the ST side of things. It'll be another one of these things to get people to show that Atari's shipping stuff—pretty much the same reason that Commodore has PC compatibles shipping. It'll make them some money, or they wouldn't be doing it; but I don't think it'll affect the other markets now.

The big thing with the '386 machine is that, to get a dealer to pick it up and not to pick up another '386 machine, what would be his decision? To deal with a company that's fly-by-night, that has some off-brand name that he can't even pronounce, [not knowing] where he can get the maching serviced? If he buys from Atari, he can at least recognize the brand name—it's a recognizable US company. That might have some say in [the decision].

How much money is the dealer going to make off the sale of that '386 machine? That's the bottom line. ['386's] can be serviced anywhere. Atari typically reduces their suggested retail price, at the cost of the margins to the dealers. They still don't give the standard margins to the dealers that everybody else gives. For that reason, they're not going to have dealers. It might be easier to jump in on a PC with existing distribution- and if they had the right margins, they could do it—but if Atari still follows the same rules they had on dealer pricing on their hardware, they

ST PRODUCT NEWS

PC-DITTO II UNDER RECONSTRUCTION

by D.F. Scott

The anxiously-awaited PC-Ditto II hardware-based PC emulator for the Atari ST is undergoing what is promised to be its final redesign. Its projected size will be smaller than the prototype displayed at Comdex last April, its speed should be near that of a PC AT, and now EGA graphics emulation is likely to be provided on the daughterboard.

In an exclusive *Computer Shopper* interview with the project's chief engineer, Avant-Garde Systems Co-partner William Teal, it was disclosed that hardware designed to support the 64K EGA (IBM Enhanced Graphics Adaptor) standard format was being tested successfully on standard Atari SC1224 color monitors in Avant-Garde's labs. EGA's standard screen resolution is 640x360—nearly double the vertical resolution SC1224s was meant to support.

Teal told *Computer Shopper* his company's EGA hardware has been tested with software products ranging, he said, from Lotus' 1-2-3 to AutoCAD 9. In his words, "AutoCAD 9 will work with EGA resolution fine." Though Teal stated he felt the EGA emulation project was simpler than many engineers might have anticipated, he refrained from disclosing just precisely how his hardware coaxed 360 vertical scan lines from a monitor designed for 200.

The EGA standard chosen by Avant-Garde was the 16-color format, which is the lesser of the two formats sold under the "EGA" name. Said Teal, "We're only imitating the 64K EGA standard. We're just not going to be able to produce what's called the 128K EGA standard [on an ST, at least]. That would produce more colors than is possible by this hardware."

Teal left the door open for the possibility of PC-Ditto II fully emulating 128K EGA in future versions of the ST with upgraded video capabilities. Such machines may still be released by Atari.

◆ THE ST CONTROL PANEL

will not be successful with that machine.

There's really no sense in doing anything right now but a '386. There's just a mess in the '286 clone area. You can get case, power supply, motherboard for three-hundred-and-something bucks! There's no sense in competing with that.

Whatever can make Atari have a better image in the market, just so people realize they're there and doing things, can only have a good affect on the ST side of things. They'll say, "Well, Atari makes PC compatibles;" and the store that carries that probably will end up having an ST there. A lot of people may prefer the ST.

Charles Johnson: How many people are going to spend $3000 on a home computer, period? At around $2000, you're starting to reach the cut-off point of all that people really want to spend on a home-based machine, except for the real hobbyist. As the consumer's needs for a home computer grow, they're going to need a more powerful machine. But I don't know if [$3000] is going to be a competitive price by that time. The '386 market is dropping so rapidly in price these days. That might not be so remarkable by the time they release the machine—August.

David Deckemeyer: I think they can certainly pull it off, because those numbers and those dollar amounts aren't that [impressive]. The '386 motherboards now are dropping like rocks, their prices are getting way down there. There are a lot of clone makers now producing systems in the $2000 range, complete with hard drive and monochrome monitor. Certainly you can pick up a VGA for that $1000 difference.

By the time it's available, it may not be worth bringing it to market. What effect it has, I don't see as being a whole lot different than all the other millions of '386 clones that are being made now, because they are getting dime-store cheap.

Frank Cohen: [The PC5/6] does have certain ramifications with the ST, when you consider the state of its marketing ability. Really bringing out an Atari PC is Atari's own way of qualifying itself to deal with the big guys—all the other big PC clone manufacturers. So far, Atari hasn't had the marketing skills necessary to bring out an Atari PC. Their other [PC] machines were shipped to Canada and Europe—West Germany. I haven't really heard much Atari PC news from West Germany, which is Atari's major market right now. Not that the PC really did that well anyway in Germany, Switzerland, or any of the other European contries.

If they bring the PC6 out— and that is an if- and they make any sort of market penetration, then it's a complete kudo for Atari's marketing team—which consists of Mendolia, Dendo, and Salerno. Those three guys will be doing a good job if they can bring this out.

Where The Boys Are

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Frank Cohen
Regent Software
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Long Beach, CA 90803
Gordon Monnier
MichTron
576 S Telegraph
Pontiac, MI 48053
Charles Johnson
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PO Box 4336
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In our next edition: What our Panelist think about a possible ST game machine, and whether MSDOS-emulation is so important that it should be bundled with the ST.

DOG DAYS!

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Avant-Garde Systems has currently been producing the PC-Ditto all-software-based emulation system for the ST. PC-Ditto runs PC- or MSDOS, and most text-based PC programs at the average speed of early IBM PCs. By comparison, the heart of PC-Ditto II is a daughterboard which can be clipped, without soldering, over 68000 CPU of the ST—inside the machine itself. Software will be provided with the new package allowing the ST to access and"drive" the expansion hardware.

At the product's introduction in April, tests of the PC's Norton "System Integrator" on PC-Ditto II registered a speed rating of 3.0. Norton SI is a test for overall system data throughput capability, provided with Peter Norton's Advanced Utilities package for MSDOS. By comparison, a standard IBM-brand XT rates 1.0 under this test. Teal tells us the SI rating of the PC-Ditto II prototype in his labs is now up to 3.2; however, Teal states "I think Peter Norton is optimistic."

"My opinion," describes Teal, is that "this product, for physical throughput—something that you and I could measure with a wall clock—is about twice as fast as a standard PC/XT. So you would expect that everything across the board would run about two times faster, or it would take half as long to run a product as a 4.77 MHz machine. To put that in perspective, an [IBM] AT is about two-and-a-half times physically faster. I know Norton gives ATs a rating of 5 or 6. Of course, this is not in the stratosphere of '286s and '386s today. For most people, though, that's still a good speed as far as utilities like spreadsheets and word processors [are concerned]."

The speed of Avant-Garde's current PC-Ditto product had been measured by reviewers in terms of megahertz, or clock speed—as one would measure a CPU or other hardware. As a result, the software package has been touted as "running at about 4MHz." To make matters worse, with the news that PC-Ditto II's SI rating was 3.0 spreading throughout the ST news media, the daughterboard has been falsely described by independent assessors as "running at about 12MHz"—or, simply, 3.0 multiplied by 4MHz. It has thus been assumed that PC-Ditto must be as fast as or faster than some expensive 12MHz PCs.

Teal explains since an 8MHz 80286 processor is obviously faster than a 10MHz 8088, the "megahertz" method of measurement for emulation hardware and software performance is inaccurate: "The analog I try to use in most cases is, it's wrong to compare a garden hose and a rain water culvert. Obviously the rain water culvert is very large. But if water were traveling through each at ten feet per second, the wrong question to ask would be, "How fast is the water traveling?" Obviously the answers are the same. But if you were to say, "In a period of time with water traveling at ten feet per second, how much water passes through each?" A simple word for that is throughput. That would be the correct question.

"PC-Ditto II has been misused," continues Teal, "By [those in] marketing more than anyone in comparing clock speeds. I think that's where Norton SI has gained some popularity, because it became a sort of poor man's yardstick—and any yardstick's better

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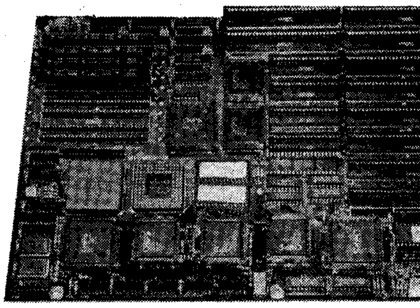

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◆ ST PRODUCT NEWS

than none at all—to compare different kinds of processors. The press has been pretty good at explaining that processors are not all the same. That left the guy on the street in a sort of quandary as to how he can compare what is better, what's faster."

Teal describes his hardware as actually running under two clocks, one timed at 16MHz and the other at 8MHz (where 1MHz=one million cycles per second). Since these times are only relevant to his own hardware, however, these numbers cannot be used in any comparisons with other hardware besides PC emulation boards for the ST—and there are no others being sold on the open market.

Bill Teal's own verdict on PC-Ditto II's throughput performance is this: "we are faster than the 10MHz Turbo XT clones—without considering all the neat technical stuff like wait states—but we are slower than an AT '286 at 8MHz. We are probably a little bit closer to the 6Mhz original AT for processor throughput, but we're not quite there yet. We may have a toe in that range. We don't have the total foot."

In describing his hardware, Teal was forced to make some admissions that the throughput of the all-software PC-Ditto was—somewhat slow. "Somewhat is a very kind word," replied Teal to this reporter's assessment of the original speed. "I've heard the word painful used. It really depends on your concept of pain, and whether you're very sensitive. I'm very sensitive to pain.

"In many cases—in our own opinion," admits Teal candidly, "some [PC] software was not usable at all. The two problems that we had [in the original PC-Ditto] were speed, and speed of graphics. The number one request we had was, "Speed that critter up. Not just the computational side, but speed up the graphics." If you had a sluggish screen, no matter how fast it felt like *underneath, it would feel like a soggy* machine. [It felt like] there was some speed under it, but it was being relayed through some sort of a sluggish shock absorber. It would come across on the screen looking sort of like you're in a daze. We couldn't imagine what it would be like to have a high-speed Norton SI [rating], and then [see] people watch something run on it and say, "Well, gee, something's lying to something. It's not that fast; I don't care what they say. I don't care what computer programs are saying, it's not coming across."

"David Small [the creator of Spectre GCR, a Macintosh emulator for the ST] mentioned at one of the conferences something he called the "toe-tap" method of computer [speed measurement]. If the computer makes you wait long enough for your toe to start tapping, then that's too long. That's about two seconds in most cases. Our feeling is that things should run smoothly—it should be fluid, and the screen should change instantly. It should flash; it should go! It shouldn't scr-r-roll l-leisurely across the screen like a slow drip."

The original plan for the hardware configuration of PC-Ditto II was that it be contained in a cartridge that can be slipped into the open ST cartridge port, like Magic Sac and Spectre 128. Bill Teal says he then took a survey of ST users: "We said to people, "We're thinking about producing a cartridge-based PC emulator in hardware. What do you think? The number one response—they didn't even ask about speed or compatibility or EGA—was, "If you put it in that cartridge port, you're going to make life living hell for us. The reason is, we're going to be continuously plugging in and unplugging these cartridges all day long." I remember somebody telling us that they didn't want a train of boxcars sticking out the side of their machine."

In response to customers' opinions, Avant-Garde decided to take the risky step of making PC-Ditto II an internally-installed upgrade, requiring the installer to open up his ST, remove the metal RF interference shield (sometimes that requires a soldering iron), and tinker with the very motherboard of the machine. Teal describes the physical structure of his product: "The internal mount has a clip that sits over the 68000. It isn't soldered; it's a special kind of clip that's really sturdy. It's not flimsy with thin little wires in it. It only fits one way, it snaps down and is locked into place. It's not going to move. You can unclip it and pop it off. From the chip clip come a couple of little flat-line cables. They attach to the board; the board itself does not sit on *top of the 68000 as has been rumored."*

In order to meet the minimum requirements for internal space consumption, PC-Ditto II had to be made to fit in the ST with the least space—namely the 520STFM, with not only the floppy drive and power supply but the RF modulator built-in. Teal describes that in this model, "it becomes so tight that a piece of paper would have trouble being fitted into that machine under the RF shield after you put in PC-Ditto and a RAM upgrade. On the 1040, the little card that the cables plug into—which really is PC-Ditto II hardware—can be positioned in one of four obvious compass-point directions—or slanted, I suppose, if someone really got crazy with it.

"The Mega 2s and 4s have enough

room in there to park a 747 and have room left over. Even if you put in an internal Supra [hard drive], a JR Genlock, or a Moniterm board—which all plug into the expansion connector—there's 1" clearance in there either under or over their boards to put this thing. Even this board [PC-Ditto II] is not that big. It's not an eight-by-ten, though."

Doesn't the installation procedure for this hardware pose some dangerous predicaments? Teal admits, "We don't agree with amateurs, novices out there, using blow torches to try to desocket chips, cut traces. I can only imagine the liability and warranty problems should I have people claiming their machines were destroyed, burned up in fire, killing human beings."

Could PC-Ditto II be sped up further still by the addition of a 16MHz accelerator board? "I can tell you right now that we can't even give people a thumbs up or down probability. The main reason is, we don't know what kind of electrical load those kinds of chips and their ancillary electronics may place on the system . With PC-Ditto sitting there, watching the address lines, ready to roll at any time, we don't know if those chips will load down the system so much that nothing works hardly at all."

The PC-Ditto II emulator promises to sound precisely like a PC—in other words, a single-channel beeper. Topping the agenda for future enhancements, says Teal, is a software/hardware-combination switch which will allow the ST user to switch to PC-Ditto II mode and back to the ST, carrying data between PC and ST applications through a "clipboard" device like the one implemented by DRI for GEM. Avant-Garde may strike a cooperative agreement with another ST products company for this clipboard device.

The PC-Ditto II project may still be in its final engineering stage by press time. Its projected list price will be $299.95.

UltraSwift

In a previous edition of *Computer Shopper,* we profiled Imagen's UltraScript, which is a software-based printing system designed to replace the laser printer drivers normally used with most ST software. The Atari SLM804 laser printer output we showed you in that profile certainly rivals output from any major software package for MSDOS or the Macintosh.

Imagen and Atari have been cooperatively bundling UltraScript with SLM804s; and Atari has been offering Imagen's UltraScript for current Atari laser printer owners for a list price of $229.95. Now, MichTron, in what looks to be the major ST marketing coup of 1989, has been licensed the rights to bundle UltraScript with its Fleet Street Publisher packages, both to be sold together for a list price of $199.95—thirty dollars less than the UltraScript package without the publishing program.

MichTron's newest completed upgrade to the program—introduced last May at a desktop publishing conference in Chicago—is Fleet Street Publisher 2.0 Deluxe. MichTron technical support chief George Miller tells *Computer Shopper* that both the original and Deluxe editions of Fleet Street 2.0 will include built-in direct-to-driver support for UltraScript. As we reported in our profile, UltraScript was originally designed to print only complete PostScript files saved in their entirety to disk by a separate publishing program. These files would be selected with the aid of a user control shell. This shell would not be required for use with future editions of Fleet Street containing UltraScript.

The rights to some 95 UltraScript font styles have also been licensed to MichTron, with more expected. Mirrorsoft, the British company which is the originator of Fleet Street Publisher, should be releasing F.S.P. 3.0 by press time, again through MichTron. George Miller tells us this edition will include an infinite page limit, support for GEM's GDOS-format metafiles, text flow around varying shapes of graphics included in a typeset page, and an optional driver for Linotronic 1200 dot-per-inch typesetting machines. With this driver installed, says Miller, the ST can drive the Linotronic directly without the need for any extra hardware or interfacing besides a cable. Retail prices for F.S.P. 2.0 Deluxe and 3.0 have yet to be set.

MichTron is also announcing its first major word processor product for the ST, called ProText. A complete list of features has yet to be compiled, but among its more prominent features will be support for multiple command macros and a built-in command-line interpreter for use in file control. Projected list price for ProText is $199.95.

Hopefully Within Our Lifetimes

We've been keeping a lookout over the ST BASIC interpreter/compiler battlefield; and so far, the big guns from GFA Systemtechnik's side have failed to show themselves. The GFA Basic 3 Compiler is still under construction, GFA sources tell Antic Software, which distributes GFA products in North America. An Antic spokesperson tells *Computer Shopper* GFA has promised Antic a master disk of the Compiler to be sent to them in mid June, but some Antic officials aren't betting they'll see it even then.

In the meantime, Antic slated June 15 as a release date for the ST version of GFA Assembler. Details about the product were unavailable; until GFA says otherwise, Antic expects the product to be an assembler. An Amiga version of the product is expected to follow.

Antic's Heidi Brumbaugh is reportedly still working on the new, more legible, GFA Basic manuals; since her

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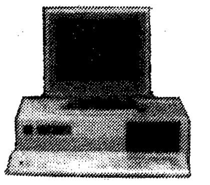

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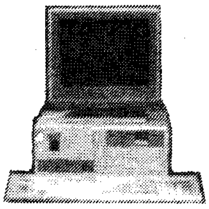

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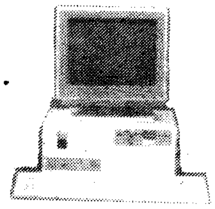

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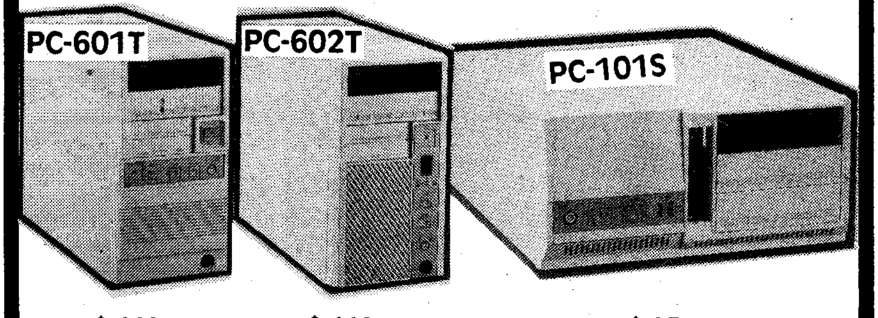

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hands are full, another Antic author will apparently be assigned the Assembler project. The GFA Basic 3 interpreters for both the ST and the Amiga are available now; the Amiga release contains an interim manual, while the ST version contains the original manual as translated by MichTron, GFA's original US distributors. Also included in the ST version is a card entitling registered owners to the new manual from Antic once it becomes available.

Our tests show Antic's GFA Basic 3 to be identical to the product at the time it was last distributed by MichTron. Further details to come in our continuing Battle of the Basics series in *Computer Shopper.*

A Belated Farewell to Whitesmiths

Several months ago, we profiled Whitesmiths, Ltd., the company which produced IDRIS for the Atari ST. IDRIS is an operating system which is designed to run UNIX programs in a UNIX-like environment, for computers which do not have the true memory management hardware UNIX requires to operate.

Last January, Whitesmiths was acquired by Intermetrics, Inc., a competitive producer of C programming language development systems, whose headquarters was literally down the street from Whitesmiths in Cambridge, Massachusetts. Whitesmiths was known throughout the entire computer industry as the finest producer of C-language compilers and development systems; its name was mentioned by developers as a violinist would say the word "Strativarius." Whitesmiths founder, P.J. Plauger, is a columnist for *Computer Language* magazine, and sat on the Board of Directors of the Institute of Electrical and Electronic Engineers (IEEE)—which, among other things, determines what the standards for programming languages and operating systems will be.

Without any ill feelings toward Intermetrics, I must admit that I was sorry to see Whitesmiths go. Both Bill Plauger and Whitesmiths' former Vice President for Development, Telford B. Sartell, were invaluable to this reporter as technical sources, and provided background material used for important and controversial articles, including my observations about true and false multi-tasking. The company went out of its way for my benefit; though Whitesmiths' people considered their efforts part of their regular business.

An Intermetrics spokesperson says the company has yet to decide whether to publish IDRIS—or anything else, for that matter—for microcomputers like the Macintosh and ST.

Intermetrics primarily supports workstations running UNIX and VMS operating systems. The spokesperson also says P.J. Plauger has been hired by Intermetrics, though Ted Sartell has decided to go on his own. I wish them both the very best.

Four Letters, Begins With N, (Informant)

Norm Weinress, is the owner of the Logical Choice ST and Amiga store in North Hollywood, California. Besides being a retailer, he is also a hardware engineer and author of a software product called CrosSTword, which is a crossword puzzle creation system.

CrosSTword acts as a platform for professional puzzle development, so people who make their living creating puzzles may at least have their equivalent of a word processor. The program does not offer any words or clues of its own with which to fill the blank spaces; on the other hand, it does not torture the user into having to input her answers and clues sequentially. It includes an "auto-symmetry" feature so that blank squares placed between words automatically reflect to the opposite half of the graph, giving the final product the professional appearance one finds in a respectable puzzle.

I have seen crossword puzzle "entry" systems which are so simple that they must assume the creator must have drawn her puzzle on paper first before she even switched her computer on. By contrast, CrosSTword starts out with a clean graph of a selectable perfect-square size. The creator can then scoot her black outline cursor along the graph with the arrow keys, and type letters on the screen where she pleases. The answers on the graph literally number themselves, and clues may be entered whenever the creator pleases. Erasure or replacement of a word on the graph is as simple as typing over the existing word—no more eraser shavings littering desks.

Here's where the program gives the user a feature only a computer can provide: CrosSTword has a selection called "trial fit," where the creator can input a word across or down, and using the arrow keys have it float majestically above the puzzle without changing it, until she finds a position in which that word can be used, and then plunks it down on the puzzle graph.

I must admit—to Norm as well as everyone else—that creating a crossword puzzle is not at all easy, even with the aid of this program. Just because a person works with words every day does not mean he can necessarily weave them into a neat, compact block. I can think of several words which seem to have been created for the purpose of inclusion in a crossword puzzle—for instance, algae, Crimean, dongle—but locking them into place in the graph, and then trying to find other real words to fill in the gaps, makes me wrack my internal vocabulary until I begin to see alphabet soup whenever I close my eyes. Attacking my eyes with the small print of the Compact Oxford English Dictionary, I come face to face with all the real words I had never seen in print before. If CrosSTword can help expand my own vocabulary, then imagine what this tool can do for the student who needs to build up his own syllabic repertoire.

CrosSTword is written in compiled GFA Basic 2; so this program may misbehave in conjunction with certain memory-resident accessories, as is common with GFA compiled programs. This point is important for those who may be intending to use Thunder or some other memory-resident spelling aid with this program. Thunder doesn't provide any definitions to help with clues, though; so I would recommend scanning a good dictionary for words whose definitions can be literally bent, if you will, into clues.

The printed product puzzles are of sellable appearance, and any professional puzzler may submit their CrosSTword works to a newspaper or magazine without having to call up Norm and get permission. CrosSTword sells for about $29.95.

BxQ—Bishop Massacres Queen (In Cold Blood)

Of all the variations of chess ever written for microcomputers—whcih must now number well into the thousands—we now have one for the ST which should be purchased simply for the sake of the chessboard itself. Its name is Battle Chess, and its chessboard is animated, so that real chess moves translate on the screen into hand-to-hand combat between the pieces themselves.

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The game is played on a 3D perspective view of the chessboard, which is depicted in a realistic green marble texture. The chessmen are, literally, chessmen—little people cloaked in red or blue dress or armor. When the player makes a move by pointing to the source and destination squares with the mouse, the selected chess pieces walks to that destination. If a knight is being moved, he will nudge pieces out of the way if he needs to; because of restricted space, there are no horses, but his fully-armored battle regalia is convincing enough. The rook obviously would pose a problem for the animators—since it's not really a person, it would either have to become one or else be rolled around on a dolly. The animators chose the former transformation, so the rook becomes a stone gorilla borrowed, it seems, from Marvel Comics.

The player who's easily attracted by the ST's graphics will most likely be either the most brutal or most self-sacrificing Battle Chess player, since the fun part—the reason you'll want to buy this game—is the animated combat between the chessmen. Since all moves made in this game are made according to the internationally-accepted rules of chess, everyone watching or playing a Battle Chess game will know the outcome of each melee; but just how the animators chose to choreograph each battle is very entertaining and imaginative. The chessmen don't just swing swords at each other until one of them falls over and dies. For instance, in the case of rook-captures-pawn, the classic-looking rook becomes the huge rock monster and walks in a straightforward direction to the pawn's square. The pawn then takes a few huffy steps over to the side and lets the rook-creature in. The pawn then examines this gargantuan specimen of biological architecture, and then glances at his not-so-gargantuan lance. Seeing the enormous unlikelihood of another David-and-Goliath outcome, the pawn drops his lance and stretches out his hands meekly, as if to whimper, "What have I possibly done to deserve this?" The rook-creature then emits the type of laugh a fellow made of granite would be expected to emit, and with a fist the size of a tombstone pounds the little man down to the size of a soccer ball. This is the only animated bout I will describe to you, since the real fun of this game is in anticipating these skirmishes. Watching them again and again is like seeing Roger Rabbit fifty times; the good feeling never wears off.

Now, I realize there are those of you traditional chess players who must be saying to yourselves, leave it to computer programmers to introduce brutality to a game as pristine as chess. The authors of Battle Chess were thoughtful enough to provide an optional two-dimensional board with this game, which shows the conventional chess pieces without any of the animated gore and violence. The computer, however, is a very brutal Battle Chess player, and seems to be concerned—even in the intermediate look ahead levels—more with capturing pieces than with checkmate. The reason, apparently, is so that we can have more animation; but in 2D mode, the appearance of a rapidly-emptying screen is not too attractive to a conventional player. So as for the question of whether Battle Chess is the next Sargon or Chessmaster, I doubt it seriously. The most recent versions of both of these games play swiftly and cleanly, like an accomplished fencer with a well-polished foil; Battle Chess would have that same fencer attack with a

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◆ PHOTON PAINT 2.0

from page 253

mined by clicking the airbrush gadget with the right mouse button. Use the cursor to draw a small circle on the screen. This will set the spray depth. Another new gadget is the polygon cut tool. Click the cut tool three times to get to this new feature. This allows for bushes to be cut using straight lines if the freehand cut option is not desired.

Quite a number of older features have minor things about them that have been upgraded. I shouldn't refer to these as minor changes, after all, its the simple things that sometimes are the most appreciated. For example, take Photon's time feature. Every time you preform a function that consumes time like the surface mapping always does, a little time counter appears on the menu bar of the fast menu. It's a nice thing to have but if the fast menu has been turned off before you start this process you will be left starring at a blank screen for awhile. There is no way to make the fast menu reappear. The programs creators have fixed this by attaching a percentage counter on the "wait" symbol, which tells you how long you are going to wait in percentages. The nice thing is that Photon Paint 2.0 is filled with little things like this.

Documentation

Photon Paint's manual has been upgraded in respect to the new features found in version 2.0. MicroIllusions has still not included an index! Everything can be still found by careful study of the table of contents, but a good manual deserves a good index! The manual is still quite good, written in Heidi Turnipseed's personable and witty style. The manual's focus is towards the novice user, which explains the intense detail given to every single program feature. The manual has been revised

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◆ ST PRODUCT NEWS

chain saw.

The game-playing algorithms of Battle Chess, thus, will not educate the novice player on matters of survival against players like Boris Spassky; but after amputating and decaptitating every limb, it can win. The environment offered by the game, however, makes it the first truly usable substitute chessboard for two players. In fact, you may find person-against-person more enjoyable than playing against the computer, for laughs are more powerful when they are bounced off another human being.

The game does serve another purpose, though: After those long and grueling days at work in which you'd wish your colleagues would either disappear or individually explode, you can set Battle Chess to play itself, and watch the little guys hack each other away, in a battle royal that would make even Chuck Jones smile with envy.

Battle Chess' primary authors are Jay Patel, Bruce Schlickbernd, Michael Quarles, and Todd Camasta of Interplay Productions—which incidentally produced the successful Bard's Tale series for Electronic Arts. Retail price of Battle Chess lists at $49.95.

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